9. (Twice Amended) A method according to claim 8, wherein the frozen subset of the stock inoculum material is thawed before direct inoculation of the cultivation medium in step (iv).

10. (Twice Amended) A method according to claim 8, wherein the subset of the stock inoculum material is combined with an aqueous medium to obtain a suspension of the cells before direct inoculation of the cultivation medium in step (iv).

11. (Twice Amended) A method according to claim 1, wherein the direct inoculation of the cultivation medium in step (iv) is provided under aseptical conditions or under substantially aseptical conditions.

REMARKS

After amending the claims as set forth above, claims 1-26 remain pending in this application. Applicant believes that the amendments made herein do not necessitate a new search, are supported by the specification as originally filed, and place the application in condition for allowance in view of the reasons which follow.

35 U.S.C. §112

Claims 1 and 7 as amended are believed to render the Examiner's objections moot. Applicant requests that the Examiner rely on the wording of Claim 5 and disregard any opposite argument previously submitted. The correct ratio is the ratio of the CFU per g of cultivation medium immediately after inoculation to the CFU per g of the subset of stock inoculum. Thus, all objections under 35 U.S.C. §112 should be alleviated.

35 U.S.C §103

The Examiner is correct in presuming that the subject matter of the various claims is commonly owned. Accordingly, there are no changes in inventor or invention dates of the claims.

The Examiner has rejected Claims 1-4, 6-7, 11, 17-22 and 24, stating that it would have been obvious to one of ordinary skill in the art, at the time of the claimed invention, to take a portion of a stock material when following the methods of Sing. The Examiner has also rejected Claims 8-10, 12-16, 23, and 26 as obvious in light of Sing et al. and additional references including Czulak et al., Lizak, Vandenbergh et al., Matsumiya at al., and/or Rimler et al. The Applicant strongly disagrees with this statement based on the following arguments.

First, none of the cited references, including Sing et al., disclose supplying subsets of stock inoculum to customers provided in amended Claim 1. Further, none of the cited references disclose maintaining a supply of starter cultures having a consistent quality when other subsets of inoculum material are supplied and used by a customer as claimed.

Second, Sing et al. does not solve the problem of providing a method for supplying starter cultures which has a consistent quality and a high stability irrespective of it being in a liquid state, a semi-liquid state, a frozen state or a dried state. In the enclosed document by T.M. Cogan and J.-P. Accolas, it is disclosed, in the beginning of chapter 7.2, that the liquid starter cultures provided in the early days was sent to dairy plants located close to the starter culture-producing laboratory. Furthermore, it is stated that one of the disadvantages of these liquid starter cultures is that they quickly

lose the acid producing activity whereby the distribution of liquid starter cultures is more difficult because the dairy plants using the starter cultures were consolidated and were located over wider geographical areas. Thus, there was a requirement for developing new methods of supplying starter cultures from the starter culture-producing laboratory to the dairy plant and the practice of air-drying (and freeze drying) became common.

The claimed invention, however, provides a method for producing starter cultures in a liquid or semi-liquid state having consistent quality and being able to be stored for up to 5 years with substantial retention of activity. Additionally, an even more consistent quality for the starter cultures in frozen or dried state relative to conventional methods (such as Sing et al.) is obtained.

Based on the above comments it would not have been obvious for one of ordinary skill in the art to do as claimed in the present invention. Specifically, a skilled artisan would believe the methods of the claimed invention involve a step back in technological development of starter cultures and would not be motivated to try the claimed invention. Additionally, one of ordinary skill in the art has not, until the present invention, been able to provide liquid starter cultures having consistent quality and high stability.

Thus, none of the cited documents (Sing et al. Czulak et al., Lizak, Vandenbergh et al., Matsumiya at al. or Rimler et al.) when taken alone or together disclose each limitation of the claimed invention and/or solve the problems of prior art methods. Further, a person skilled in the art would not be motivated to provide the present invention by the teaching of any of the cited documents or any combination thereof.

Therefore, Claim 1, and all claims dependent thereon, are not obvious under 35 U.S.C. §103 in light of the cited documents.

Applicant believes that the present application is now in condition for allowance. Favorable reconsideration of the application as amended is respectfully requested. The Examiner is invited to contact the undersigned by telephone if it is felt that a telephone interview would advance the prosecution of the present application.

Respectfully submitted,

Date December 19, 2002 By Jason E. Pauls

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Marked Up Version Showing Changes Made

Below are the marked claims showing the amendments made herein:

~~1. A method for supply of a starter culture with a consistent quality for one-step inoculation of a cultivation medium, comprising the steps of:~~

~~(i) supplying a stock inoculum material comprising a concentrate of starter culture organism cells;~~

~~(ii) using a subset of said stock inoculum material for direct inoculation of a cultivation medium for subsequent production of starter cultures with a consistent quality;~~

~~(iii) propagating the starter culture organism cells for a period of time adjusted sufficiently in size to produce a desired amount of said cells; and~~

~~(iv) harvesting the propagated cells to provide said stock inoculum material which subset thereof can be used as said starter culture.~~

1. (Twice Amended) A method of supplying starter cultures of consistent quality, the method comprising the steps of:

(i) providing a stock inoculum material comprising a concentrate of starter culture organism cells,

(ii) dividing said inoculum material into subsets hereof,

(iii) supplying, when required, inoculum material subset(s) to a customer in need of a starter culture,

(iv) using, at said customer, a subset of the stock inoculum material for direct, one step inoculation of a cultivation medium for propagating the starter culture organism cells for a period of time sufficient to produce a desired amount of said cells; and

(v) harvesting the propagated cells to obtain a starter culture,

the method permitting, when steps (iv) and (v) are repeated with another subset of the stock inoculum material, the supply of starter cultures having a consistent quality.

4. (Once Amended) A method according to claim 1, wherein the subset of the stock inoculum material in step (~~ii~~iv) is directly inoculated in the cultivation medium at a rate of maximum 0.1%.

5. (Twice Amended) A method according to claim 1, wherein the amount of the subset of the stock inoculum material for direct inoculation of the cultivation medium in

step (~~ii~~iv) provides a ratio of the CFU per g of cultivation medium, immediately after inoculation, relative to the CFU per g of the subset of the stock inoculum material being inoculated, said ratio being in the range from 1:100 to 1:100,000.

6. (Once Amended) A method according to claim 1, wherein the cultivation medium immediately after the inoculation in step (~~ii~~iv) contains a number of CFU per g of cultivation medium which is at least 10^5.

7. (Twice Amended) A method according to claim 1, wherein the cultivation medium in step (~~ii~~iv) ~~may be~~comprises any conventional medium used for propagation of microbial cells.

9. (Twice Amended) A method according to claim 8, wherein the frozen subset of the stock inoculum material is thawed before direct inoculation of the cultivation medium in step (~~ii~~iv).

10. (Twice Amended) A method according to claim 8, wherein the subset of the stock inoculum material is combined with an aqueous medium to obtain a suspension of the cells before direct inoculation of the cultivation medium in step (~~ii~~iv).

11. (Twice Amended) A method according to claim 1, wherein the direct inoculation of the cultivation medium in step (~~ii~~iv) is provided under aseptical conditions or under substantially aseptical conditions.